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HEALTH

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Editorial

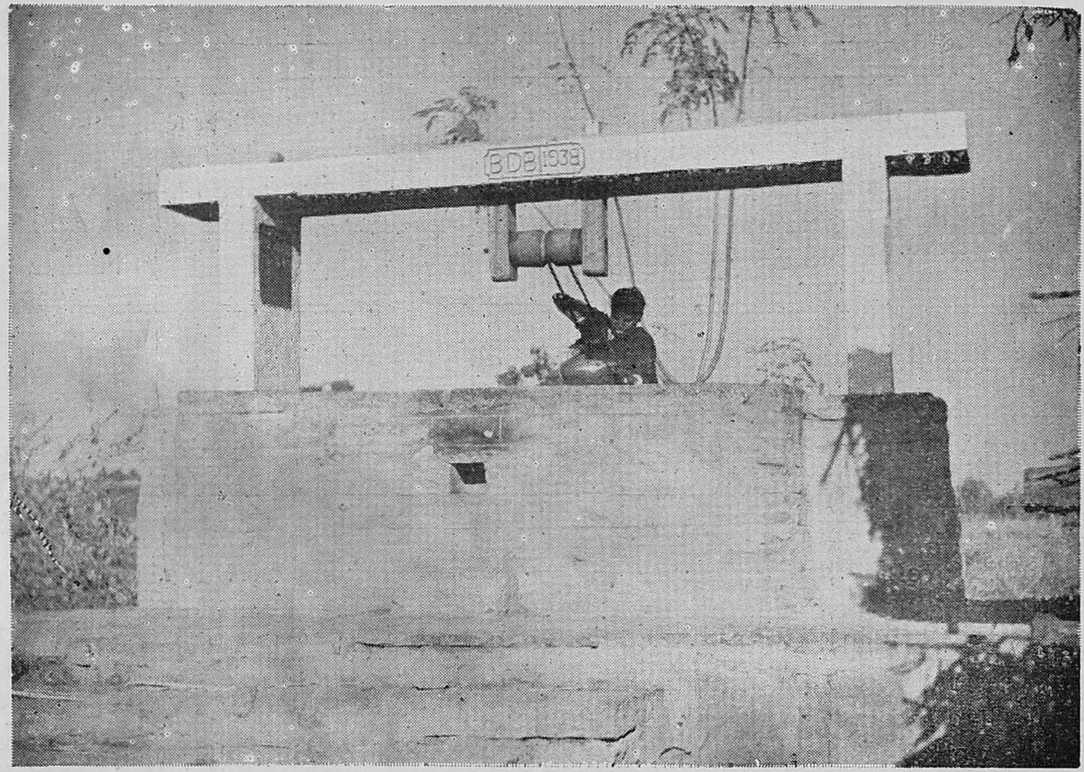
TYPHOID

During the past few months, Madras witnessed a serious out-break of typhoid, several cases even proving fatal. Owing to the low level of water in the Red Hills lake and the consequent restricted supply of pure water, people had recourse to other sources, such as wells, which might have been the cause of this outbreak. Expert sanitarians were of opinion that it was due to the drinking of water from the tube wells which the Corporation had sunk in many places in the city to meet the deficit supply but that theory had been controverted by others equally entitled to speak with authority on the subject. Whatever the immediate cause, it cannot be denied that polluted water due to scarcity and inadequate food due to famine conditions prevailing in and around Madras were mainly responsible for this outbreak. The present, therefore, is the opportune moment for our readers to know something about this disease and its prevention.

Now, what is this fever, which is almost infective in nature and deadly in effect? A century ago, the existence of this fever, in India, was ignored, nay, denied even by physicians of repute. "Formerly the conception of Malaria so dominated the horizon of the conception of all fevers, that nearly every case of pyrexia was relegated to this cause. Even the ulceration of the bowel (which is a special characteristic of this disease), was attributed to a complication of malaria. More correct views prevail at the present day owing to advances made in laboratory diagnosis and technique and fevers of the enteric group now occupy their true position

as the commonest variety of continued fever met with in daily practice in larger towns". It will not be out of place, in this connection, if we say, that the Ayurvedic and Siddha systems of Medicine have also recognised this type of fever as a prolonged and dangerous one. Typhoid was first distinguished from Malaria in India by Dr. Scriven of the Bengal Medical Service in 1853. Three causes were then attributed to this type of fever, *viz.*, (1) Malaria; (2) Climate; and (3) Wet miasmata (a noxious effluvium or exhalation) of vegetable or animal decomposition. The discovery of B. Typhosus, however, by Eberth in 1891, settled the diagnosis as one of typhoid fever.

Typhoid fever is an exceedingly common disease in India. Like cholera and dysentery, it is a disease mainly of the intestines. The causative organisms or bacteria, leave the bodies of persons infected with this disease through their dejecta and hence the fever is essentially a "drain and cesspool fever". The spread of typhoid depends on these dejecta finding their way into the mouth of the next victim. *Water* is the most frequent and convenient vehicle for the spread of contagion for obvious reasons. Water dilutes filth and renders it invisible to the naked eye. A million organisms when present in a small quantity of water produce a mild cloudiness, but 1/1000 of this quantity would probably cause the disease in any one swallowing it. How does the water get infected? Water in shallow ponds and wells are liable to be infected by the intestinal discharges of a patient (carrier) or by



An ideal water supply. A newly constructed well in a village in Mysore State.

washing the patient's clothes in this water. In shallow streams, when infected clothes are washed in a place higher up, the infection is carried to places lower down.

Water is not, however, the only agency through which the disease is spread. It is spread also by what are called '*carriers*'. The carriers are of two main types: (1) Those who while suffering from typhoid, pass the bacteria in their dejecta to their neighbours and (2) Healthy carriers *i.e.* those who, though not actually suffering from the disease yet carry the bacilli in their intestines and spread it to others. The last category is a dangerous one, for they are the innocent causes of widespread disease and countless deaths. When these carriers are employed in handling food etc., they may infect the food with their fingers which have already been infected during ablutions. The story of 'Typhoid Mary' is an illustration, a summary of which we give below for the benefit of our readers:—

"'Typhoid Mary' has been described as an Irish woman of middle age, unmarried and exceedingly non-communicative. She seemed to be in perfect health and was not known even to have had an attack of typhoid. She seemed to have worked for eight families and in seven of these, there had been outbreaks of typhoid. She had always escaped in the epidemics with which she had been connected.

Following Mary Mallon's employment at Oyster Bay, she had come to live with a family at Tuxedo, New York. There she had stayed for a month. Fourteen days after her arrival a laundress was taken sick with typhoid. No other case had been known in Tuxedo for several years. In rapid succession, six persons in a household of eleven contracted the disease. A study of the household was undertaken and it was discovered that the family had changed cooks, shortly before the outbreak occurred. The new cook remained in the family but a short time; after she left they had no knowledge whatever of her whereabouts.

Finally this cook's location was acertained and it was discovered that two cases of typhoid had broken out in the household where she was employed. But Mary denied that she was a carrier. Next, she was taken into custody by the New York City Dept. of Health and the excretions made the subject of careful bacteriological examinations. Sure enough germs aplenty were found in the fæces. Daily examinations made for months revealed the presence of the Bacillus Typhosus almost every time. Blood gave a positive Widal (typhoid) reaction. The implication was plain. Mary Mallon was a living culture tube in which typhoid germs multiplied and from which they escaped in the movements from her bowels. When at toilet, her hands became soiled and when she prepared a meal, the germs were washed and rubbed from her fingers into the food. This contaminated food carried the infection to others. Ten epidemics with a total of fifty one cases were traced to her door." All this happened between the years 1901-1919.

The third cause for the spread of typhoid is *flies*. We all know what part flies play in the propagation of diseases, generally. Flies visit the latrines first and with their infected feet sit on the foods and food-stuffs meant for human beings. Thus, they

carry infection from latrine to food, and from food to man.

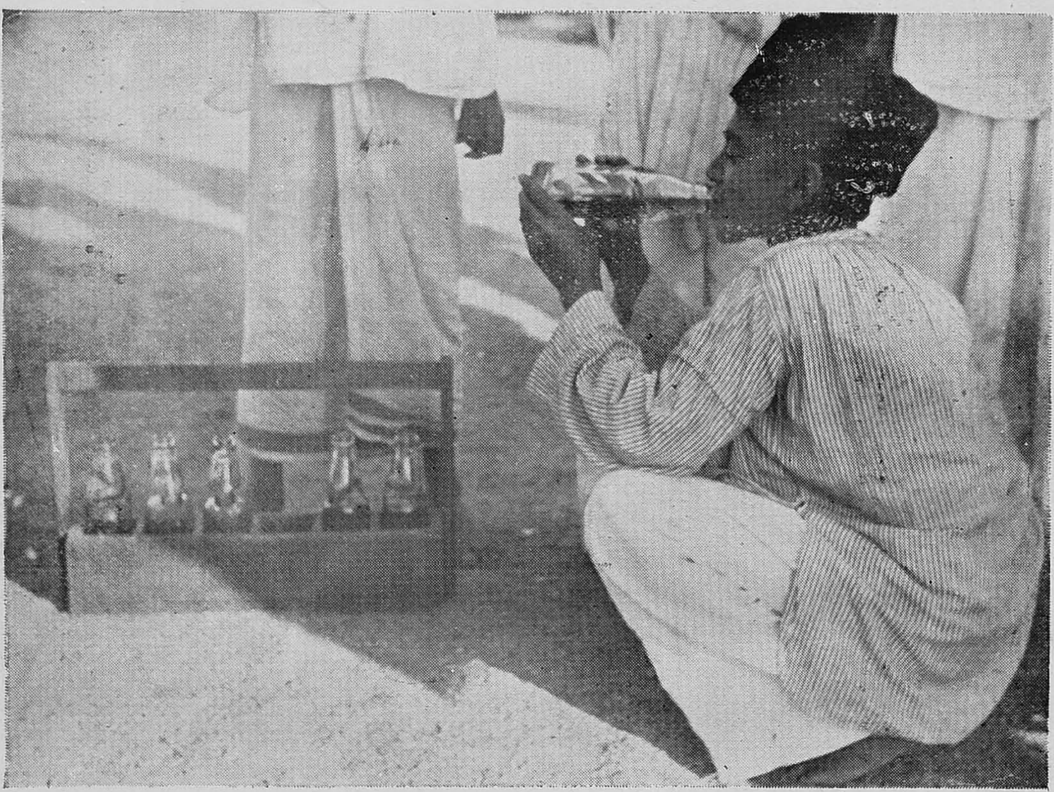
The fourth cause is *food*. Almost any food eaten raw may carry the infection. Even cooked food may be infected by flies or carriers, after it becomes cold. Milk and milk products such as butter-milk, have from time to time acted as the chief causes of outbreak of epidemics of typhoid

also be incriminated, unless they were thoroughly disinfected then and there.

Sixthly and lastly, *contact* such as kissing &c.

Preventive measures to be adopted during an epidemic:—1. An early diagnosis of a typhoid case followed by isolation or segregation of the sick.

2. Disinfection of the stools and



Drinking aerated water from a street vendor—a dangerous way of quenching thirst, for aerated waters are generally prepared with very little regard for cleanliness.

fever. Ice-cream, soda water, lemonade and other drinks, handled by filthy men during the process of preparation and kept in insanitary places for sale, are not above suspicion.

Fifthly, *dishes, bedding, towels &c.*, from a sick room and any object recently handled by a carrier may serve to spread the disease. *Thermometers, tongue depressors &c.* must

urine of the sick patient : disinfectants should be placed in the utensil used for collecting the excreta. Disinfectants should also be strewn on the motions. It is safest to promptly get rid of the excreta. In towns, they are best thrown down a water-closet, after thorough mixing with disinfectants: other people should, if possible, avoid using the same water-closet.

In this country, it is best to bury the disinfected stools in deep trenches at some distance from the house and away from the wells or water-supply.

3. Anything which is soiled by the patient must also be promptly disinfected or burnt e.g. soiled cloths should be soaked in carbolic lotion.

4. The attendants should also use disinfectants for their hands.

5. All conditions of defective hygiene must be remedied and suspected water or milk, boiled.

6. Protection of food from flies and dust.

7. Protective inoculation.

It is largely due to anti-typhoid injections that the armies of the Great War were almost free from typhoid fever. Most persons suffer no discomfort or inconvenience after the injection. Sometimes, there is some swelling and pain of the arm for a few hours and sometimes slight fever. The immunity that is acquired by this injection lasts for a few years.

Treatment :—There is no specific treatment for typhoid. Proper diet and careful nursing are the two things that count for success in the treatment of typhoid.

As regards diet, there are two schools of thought, one advocating 'full diet' and the other 'starvation diet' which consists of milk with lactose added. This latter school follows the slogan : "relieve the body of its load and the body will cure itself." The importance of administering fruit juices in large quantities to preserve the alkaline reserve of the blood must never be forgotten. The juice of many oranges, pine apples, pomegranates should be administered daily, due care being taken not to allow unripe fruits to be taken.

Dr. Abraham S. Erulkar of Bombay is a staunch advocate of 'Full Diet' method. His observations on the paper on " Enteric fever in the tropics" by Lt. Col. F.A.F. Barnardo, C.I.E., C.B.E., I.M.S., Principal, Medical College, Calcutta, on the occasion of the celebration of the Seventh Congress of Far Eastern Association of Tropical Medicine, held at Calcutta in 1927, are worth noting here :—

" I should like to protest against the starvation line of treatment given to typhoid cases in this country. A typhoid case must be fed well if we expect him to fight his disease successfully. His diet must meet the caloric requirements of the patient—at least 2,000 calories in an Indian patient. It must be easily digested and must not irritate the Peyer's patches. I usually give my patients milk, honey, sugar, cereal conjees, bread, butter, eggs, boiled fish and chicken. On a fuller diet such as this, the incidence of complications and mortality is considerably reduced and convalescence is shortened. Actually the percentage of hæmmorrhage and perforations is halved. My experience at King Edward Memorial Hospital, Bombay, bears out the above conclusions."

In view of these conflicting opinions, it is best and safest to allow the attending physician to use his unfettered discretion and have his say in the matter of diet and scrupulously follow his prescription.

With regard to nursing, we must point out that good nursing is the pivot of recovery in typhoid. A trained full-time nurse should be employed, one for attendance during the day and one during night. It will be her duty to maintain a regular chart of temperature, and to inform the attending physician then and there of any abnormalities in the patient and in the course of the disease. As this disease is one of 21 days' duration, or more, should it relapse, the employment of a nurse becomes imperative. Those who cannot afford the cost, must seek institutional treatment.

Tuberculosis and its Prevention*

By Dr. P. L. Deshmukh,
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THE problem of tuberculosis is becoming more and more serious in India every day, owing to its increasing toll of death-rate. The ravages of tuberculosis are to be seen everywhere. We find it in the hovel of the poor and the mansion of the rich. It has become a menacing cloud on the horizon ever growing larger and darker: and it should be looked upon with alarm and anxiety. It is a recognised fact that the disease is on the increase at the present moment. This is but natural; for, as in England and other European countries, with the growth of industrialism and city-life, in short, with the growth of 'urbanization' as one may call it, the chances of infection and consequent spread of the disease have enormously increased. The truth of this statement is evident from the fact that the death-rate from tuberculosis is much more in city-population than in rural country. So the most obvious remedy of checking the scourge of tuberculosis, can be well expressed in the words of a great man, "Go back to the villages". This is easy to preach but very difficult in practice, because a large number of population, is subsisting to-day, on industrial city-life, where wealth of the country is believed to be concentrated.

The problem of tuberculosis, can be dealt with in two ways—firstly, by prevention of infection and secondly by treatment of the infected. If going back to villages is not possible, care must be taken, at least to reduce the congestion, and improve the hygiene and sanitation of city-life. Similarly, the disease must be diagnosed early and infected cases isolated, as soon as possible. This helps to check the spread of disease, by reducing the chances for infection. But complete and rigorous isolation of the infected and contacts, as demanded by one school of workers in this field, is almost impracticable. Because the onset of the disease is so varied and sometimes is so concealed, that the early diagnosis before the infective stage is difficult to make. Again, human affections and attachments are a great obstacle to isolation.

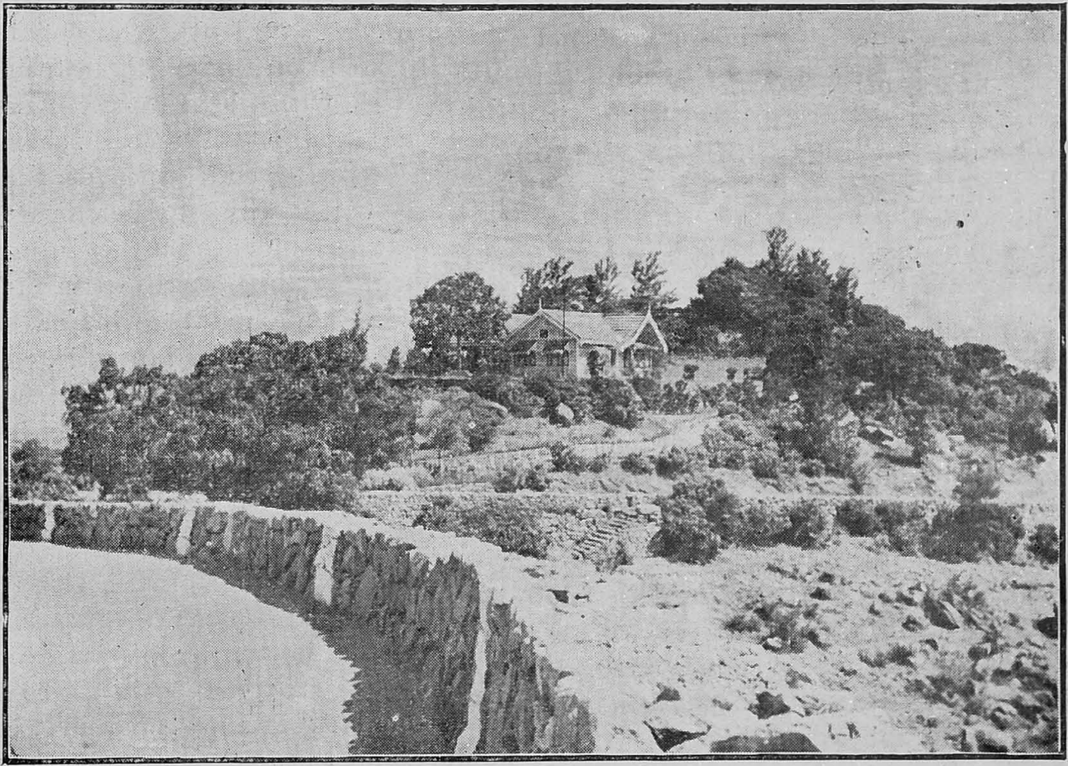
The next suggestion comes from a more radical group of workers who propose to inoculate all the population of the country in its infancy with B. C. G. vaccine named after its originators Calmette and Guerine. This is not impossible. The inoculation can be made compulsory like vaccination and just as small-pox has been stamped out in most of the countries, tuberculosis can be made to follow in its wake. But the time for this anti-tuberculosis inoculation is yet to come. Great doubts are cast on the

* A paper read before the Medical Conference held under the auspices of the Health Section of the Industrial Exhibition, Poona.

efficacy of this inoculation. Though the experiments in France give support in its favour, still the public have not yet lost sight of its disastrous results in Germany which resulted in the famous Lubeck Trial few years back. Though the trial has ultimately proved that the disaster was due to the negligence of the staff and not to the virulence of the vaccine, still it has given such a great set back to the idea of B. C. G. vaccination by prejudicing the public mind aganst it, that the people will not be prepared to receive it till the time they have forgotten about the disaster, or till another startling proof of its efficacy is brought before them, though on a smaller scale.

I do not propose, in my short talk over the subject to-day, to put forward a scheme to deal with the problem.

As regards early diagnosis, radiography stands topmost in the field. The value of tuberculin tests is believed to be doubtful in adults, but the tests may be helpful in infants. The tuberculin test is specially useful in adults when it is negative, so that its change to positive reaction definitely shows the infection with B. Tuberculosis. In such cases, even radiography may fail to show any evidence of the disease. This observation need not necessarily discredit the radiological examination as a guide to early tuberculcsis. The evidence, which the radiologist can adduce is convincing enough. But, between the first



High altitude, fresh air and sunshine confer immunity from Tuberculosis.
LALITHADRI—one of the many delightful spots on the Chamundi Hill, Mysore.

appearance of positive tuberculin reaction and radiological shadows indicative of tuberculosis, there seems to be an interval—sometimes a pretty long interval—in favour of the former.

The treatment of tuberculosis has been revolutionized since the introduction of Artificial Pneumothorax and surgical measures like thoracoplasty, phrenic evulsion etc. Chemotherapy has still got an upper hand in the treatment. Calcium, gold and Cod liver oil still command the same respect as before. Heliotherapy is quite in limelight. But still, all the present therapeutic advances are only supplementary to the time-honoured rest, sanatorium and open-air treatment.

Abdominal tuberculosis is more relentless and almost always leads to inevitable death. Bone tuberculosis requires an amputation wherever possible and campatible with life. This can scarcely be called a rational treatment.

From this,it will become clear that treatment of tuberculosis is rather disappointing. Hence our strength and energies should be concentrated more on prophylaxis than on treatment. Once our first wall of defence *viz.*, prophylaxis falls, we must realize that we are fighting a losing battle where all our endeavours are likely to be met with failure rather than be crowned with success.

Towards the end, I beg to refer to the question of tuberculosis and Life Insurance, which is receiving more attention, of late,in western, countries. Insurance Companies regard the past history of tuberculosis in a proponent and even its incidence in his family, with great apprehension and they are right to a great extent. Though the problems of marital infection and the consequent risks in family circle, have been debatable, however, at present, there appears to be a predominating opinion that close contact, in insanitary surroundings, with a tuberculous patient is a definite risk. Instead of summarily refusing those cases with old history of disease or contact, some scheme should be introduced to cover such lives, so that, it will help such a party to a greater confidence in the future. For this, if premiums to cover risk are increased, the amounts will be so enormous as to appear fantastic. If the method of decreasing lien is considered, the situation will be less insoluble. The death cover will be very small at first and will rise as the patient lives longer and longer.

Another important point, I wish to touch before I close, is the education of the public in the prophylaxis of tuberculosis. There appears to be a deplorable lack of knowledge in the public about the disease, its relentless end and its infectivity. So education of the public in the prophylaxis of tuberculosis should be urgently undertaken and institutions like our Arogya Mandal should be started in every town and village, to educate the people by means of lectures and demonstrations as to how they can avoid this fearful disease.

WHAT THE PUBLIC SHOULD KNOW ABOUT LEPROSY

By Dr. W. F. JOSEPH, M.B., B.S.,

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LEPROSY is an infectious disease but of very low virulence unlike typhoid, smallpox, influenza, diphtheria, tuberculosis etc. The disease is only very rarely contracted by contact in adults and if at all there be any chance of infection, it is only perhaps by prolonged and intimate contact with infectious lepers. There are several instances of close contacts among adults without showing any evident signs of infection having occurred. Therefore let not the public despise lepers, even though they may despise leprosy. The lepers need our sympathy. On the other hand, children are very susceptible to infection and all should bear in mind the fact that leprosy is often contracted in childhood. The resistance of children to infection is very low and hence they must be protected. If we succeed in controlling leprosy in children, we can successfully check the spread of this disease and free India from this scourge in future.

Thus we find that the resistance of the individual is the chief bulwark against infection and therefore healthful living will contribute a very great share in resisting the infection of leprosy as in any other disease.

A few simple rules of health which will have to be observed are :—

(1) Bowels must be well regulated and constipation overcome by suitable methods.

(2) Exercise is very essential to keep the body strong and fit, but should never be overdone.

(3) We all should practise regular habits in everything we do and those habits must be strictly temperate.

(4) Our daily diet must be fresh, adequate, well balanced and nourishing.

(5) All bad habits that lower the vitality of the body must be renounced.

(6) Cleanliness in and around us is essential.

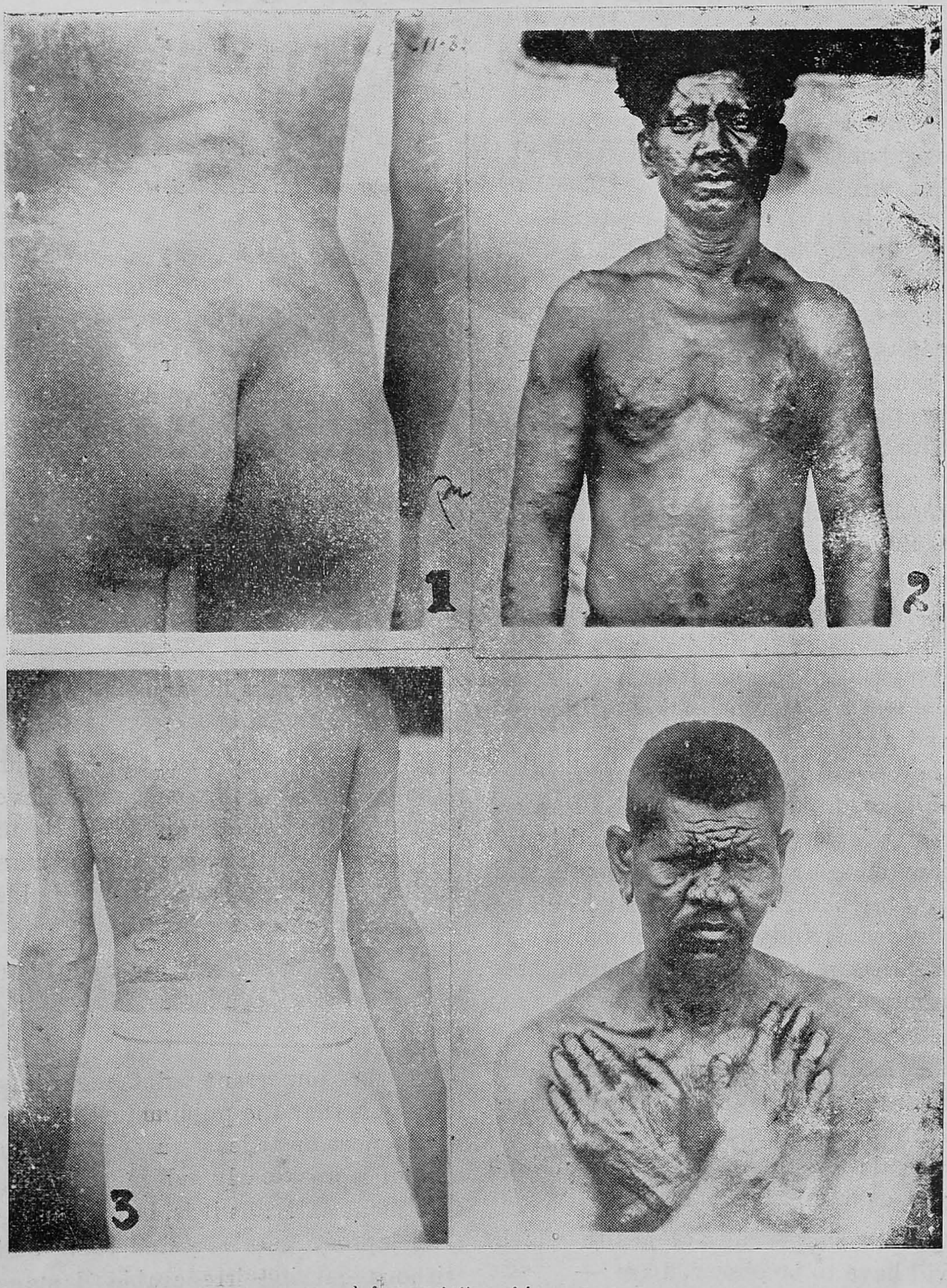
(7) Sleep being essential for the tired body and brain, one should have enough of it. The old adage ' Early to bed and early to rise makes a man healthy, wealthy and wise ', holds good even to-day for healthy living.

(8) Abundant fresh air and light are also essential factors in keeping our body fit.

Another important point regarding leprosy is that the public must be able to diagnose or at least suspect a clear case of leprosy early and must advise treatment early, as it is in this stage that leprosy gets arrested soon and without causing irreparable damage to the human system, that is so common among lepers through sheer neglect.

There are three cardinal signs in leprosy that are well worth knowing.

(1) Discoloured patch or patches on the skin showing defect in natural pigmentation generally called hypo-pigmented patches or 'macules'. But, such patches are produced by a number of causes, and the very common ones that the layman comes across are (a) birth marks (b) a skin disease



A few varieties of Leprosy.

technically called 'Tinea versicolor'. The distinguishing feature between leprosy and such affections are that in the former there is disturbance of sensation either to heat and cold or to light touch elicited by suitable tests.

(2) Presence of leprosy bacilli *i.e.*, germs causing the disease in the body. This can only be detected by technical methods and need not be mentioned here.

(3) Presence of enlarged cutaneous nerves. These nerves stand out like thick cords under the skin and can be detected by rolling them under the fingers or even seen by the naked eye.

The thickened, red and angry-looking skin of the advanced case of leprosy and the peculiar lion-like face are other signs of leprosy which the public are familiar with. When leprosy is suspected in an individual, an expert has to be consulted and his advice taken on the matter. The days of hiding the disease are gone and everyone should realise that the earlier the treatment instituted, the better the result.

One more factor that the public should bear in mind regarding leprosy is that this disease has two distinct stages. One is the non-infectious stage and the other the infectious stage. All infectious cases have to be segregated and treated, but the former needs only treatment and no segregation. The latter can with safety move about in society, attending to the normal daily duties and take treatment alongside at a suitable outpatient clinic. For infectious cases, house segregation, on effective and proper lines, as suggested by the specialist, is also recommended. In this connection it is emphasised, that one should not entirely depend on the special treatment alone. Healthy surroundings, good food, fresh air, sufficient exercise etc. already mentioned, should also go hand in hand.

A very important step in controlling leprosy in India is to open village segregation camps just outside the affected village. Here the infectious lepers may be isolated. Leprosy being mainly a village disease in India, this is a very important step in controlling the disease in our country. The villagers can very well start a private fund and organise a committee to supervise the maintenance and treatment of such isolated patients.

Periodical medical examination of school children is of vital importance in controlling the public health, which we find grossly neglected by the authorities. The medical examination of pupils must be re-instituted; for, it is on the health of the children of the present day that the future of India depends. It cannot be too strongly emphasised that leprosy and tuberculosis are the two major diseases which we have to battle against and bring under control from the public health standpoint and unless we take proper measures to check their spread, the public health of India will have to suffer and the ultimate progress of India will be retarded on all fronts.

MOTHERING—AN ART

BY

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THE new-born baby is a helpless stranger to this world. All on a sudden, he emerges into an atmosphere, where he has to lead an independent existence. He has to breathe for himself and take his own nourishment. There are heavy odds against him. His organs are incompletely developed and it takes some time for the different systems of the body to work in a co-ordinated and harmonious way. The higher centres of the brain are not sufficiently powerful to exert control over the lower ones. The tissues are less protected and more vulnerable to toxic and infective agents. The vagaries of the bountiful Nature are sometimes too much for him. For all these, he needs careful shielding, affectionate handling and efficient rearing.

I cannot lay too great a stress on the value of 'mothering'. Successful mothering is reflected in the demeanour and health of the baby. It does not mean that he shall be picked up the moment he cries and is provoked, to smile. It is your duty to treat him with kindness and gentleness; for, truly the nation lives in the cradle. The clockwork regularity and the strictest aseptic technique of even the best managed nursery or home, stand no comparison with the affectionate care of the mother. There can be no substitute for the warmth of the mother's lap. There is something inexplicable —call it divine or not—in the motherly feeling and touch which is a great stimulus to healthy development of the mind and the body. Both the mother and the baby benefit by mothering. I don't see any difference between a mother who neglects her child and a robber who throttles him for valuables. Ignorance is no excuse and neglect is criminal.

The evils of excessive mothering are none the less. An over-anxious mother not only cripples him in every respect but a difficult, spoilt or negative child is also often her own creation. The child is very sensitive to his environment and reacts to every change in a manner which will bring him into prominence. He is very quick to interpret the happenings about him. The impressions, he receives in his early years, do a great deal in building up his character and the future adjustments when he grows into a man, are also largely dependent on these.

The mother shall be cheerful and lively. She shall be disciplined, reasonable and just, having a clear insight into the baby's needs. She should be able to enter into his play and must take an active interest in all his joys and activities.

Motherhood is a great virtue and mothering indeed is a great art. Though the instinct is there in every mother, success depends upon exact knowledge and training. A certain amount of knowledge is the primary

requisite. For instance, is the baby having the proper amount, quality and type of food? Is he thriving well? Has he been growing at the normal rate? Why does an infant cry? How to protect him from infection? And so on. One word of caution is however needed. The 'bookful mother', meaning thereby one who reads a lot about child psychology, management and rearing of infants and the like, is not always a successful mother; for, she is often fussy and by her anxiety, brings sorrow for herself and makes the child a permanent invalid. If the mother is only sweet tempered, she will easily win many a battle.

At the outset, it is well to bear in mind that three great factors *viz.*, heredity, environment and education, shape every individual. By environment is meant home-influence, school-influence and influence of companions. If the relation between the parents is unhappy and one of constant hitch due to idealogical or other differences, the child becomes broody and cruel and takes an abnormal attitude towards life. If they are not reasonable and just, the same features are reflected in the child and he is likely to become a rebel. The step-motherly attitude towards an ex-baby who has been spoiled until the arrival of a younger one, is to be highly condemned. One must see that he does not feel alone, neglected and unwanted. He (ex-baby) should be asked to take part in the daily routine of the new baby which he will gladly do. Favouritism has no place in the behaviour towards children. The mother or father who holds out false and unreal promises

Hair must be kept tidy. A teacher of the Sishuvihar school, teaching hair-cleanliness

can no longer command respect from the child. It is by example alone that you can teach him personal cleanliness, unselfishness and kindness to created things.

The young organism is a weak individual unaccustomed to the ways of the world and therefore liable to failures and shortcomings. He should be helped in all possible ways and forgiven for minor faults. With kindness must be coupled firmness, tact and patience, but the will of the stronger must never be imposed upon him. The association of happiness and approbation with a good act will always prompt him to do the right thing ; for, nobody would like to court displeasure and invite scolding. Punishment is out of question unless there is definite breach when it should be carried out not with vengeance and in anger but calmly. When contemplated, it should not be deferred for long. Indeed, scolding a backward boy or coaxing a nervous boy, who finds it difficult to control the bladder, will make things further worse for him. It is impossible to spare the rod without running the risk of spoiling the child.

From the moment the baby is born, regularity should be observed in feeding, sleeping, bathing, mothering, outing etc. He should go to sleep alone in a separate cot, without rocking and without the house being unduly silenced for him. The room should not be brightly lighted when he is placed in bed and then made dark when he is asleep. A dimly lighted room is preferable lest he develops a sense of fear of darkness. The mother must not sleep very far away from the child for if he suddenly wakes up at night when all the lights of the household have been switched off and finds no dear ones close to him, he is likely to get a mental shock. Nothing is more soothing at this hour as mothering. No effort should be made to amuse the child by over-stimulation. Even when awake, the baby is better left alone at times to amuse himself without anybody taking any special notice of him. Even a baby should not remain naked. It must be understood that clothing is used not only to preserve bodyheat but it has a greater aesthetic significance. If care is taken to dress him properly from the beginning, there will be no need later on to instruct him on the necessity of being decently dressed;for, that will undoubtedly make him sex-conscious. It is to be seen that clothing does not hamper free movement of the baby. Boys should not dress like girls nor girls like boys.

It is the duty of the parents to inculcate good habits in their offsprings. Bad habits are very easily formed in infancy and childhood and an eye must be kept to prevent them. The habitual constipation of older children has its root in infancy. If the baby is held over a small receptacle at a fixed hour, preferably after meals, when he is known to empty his bladder or rectum, this will never happen. Thumb or finger sucking is another bad habit which is acquired in infancy. The treatment consists in taking the thumb or finger out of the mouth repeatedly and giving something in his hand e.g., toys etc., to keep him occupied. If the above measure fails, recourse will have to be taken to the use of long sleeves so that he cannot put the finger in the mouth or painting of the finger with a paste of quinine. Dummy-sucking

is to be highly condemned. Timely attention should also be paid to prevent head rolling, head knocking, nail biting etc. The habit of manipulation of external genitalia, which is sometimes seen in young infants should be checked early.

Training in discipline should begin early. He should not be picked up the moment he cries, when there is no ample reason for crying. A feed should not be given at odd hours, say in the middle of the night, simply because he is crying. He must be made to understand that yes is yes and no is no. When a baby is forbidden to do a particular thing, he must at the same time be given something to do instead. When the baby is strong enough, he will make an effort himself to stand and walk, undue encouragement is not necessary. Unless there is an inherent defect, he will begin to speak normally. Sometimes, it is delayed because of the absence of speech-lust, when it is better to talk to him. 'Baby talk' should never be used in addressing a baby.

In the training and education of a boy, abstract talks such as, 'Obey your parents,' 'Be always truthful,' 'Be kind to your neighbours' are quite useless. He learns by example, by imitation and not by precept. Education and amusement are inseparable in child education. These should go hand in hand. Toys, picture books, and stories play an invaluable part in education. Toys, apart from being a source of pleasure to young children, are of great help in their mental and physical development. There should be variety in colour, shape and weight. Toys painted with lead are dangerous and should never be given. Constant providing of new toys is bad. It teaches him discontent and carelessness about possessions. After infancy, the play materials should be such as will allow or produce activity in and out of doors. Older children should be given engines, ships etc., to help them to develop engineering skill. They are to be supplied with raw materials from which they will build up concrete objects, thus helping to bring out their creative faculties. Organised games and drill are useful at this age. Hobbies, directed into proper channels, are good. Sight-seeing and educational excursions are immensely instructive. These tend to unfold the genius of the child.

The child imbibes a great deal indirectly from companions of similar age. It is imperative to give him freedom from adult supervision at least for some part of the day. Companionship is all the more necessary for the only child and therein lies the value of kindergarten school.

The child, if possible, should be provided with a separate set of each of his daily requisites (towels, toilets etc.), and the responsibility to take care of his things should be his. Everything must not be ready for him and at his beck and call. This will make him inert like a toy and naturally he will lack initiative. He must learn to help himself and fight his own battle. A certain part of the work of the household, however little, should be allowed to him, so that he can feel that he is part and parcel of the whole family.

Both playing with food and hurrying at meals are to be discouraged. He is to finish his meal within a set period of time. A very large meal is not to be offered. Naturally, the child cannot do justice to the whole of it.

It teaches him only extravagance and lavishness. In persistent refusal of food, the attitude should be one of healthy disregard. Coaxing or cajoling is undesirable. As soon as he is able to utilise his own hand, imperfectly though at first, the mother or nurse should abstain from feeding him.

Unnecessary threat of personal violence—specially about genitals and of calling in some undesirable person such as the police or the doctor—gives rise to a sense of morbid fear. Those about genitals is sometimes responsible for complexities of sexual life later on. One should realise that it is positively harmful to associate witches and ghosts with darkness. It will only make him timid and coward.

Sex education is best given by parents before the child attains puberty. Of course, too early experience of sex is undesirable. Parents should therefore be very particular in maintaining secrecy about marital relations when the child grows up. A sense of wrong-doing should not be attached to sex. Fantastic stories should be avoided by all means to explain the facts about sex. Illustrations may be taken from flowers, lower animals etc. The functions of the organs should be explained in simple language in a matter-of-fact and scientific way, in the same way as discourses on anatomy and physiology are given to students. To allow the child to satisfy his natural curiosity about sex from secret and misinformed circles is a dangerous procedure. The answer to questions should be straightforward and not misty or hazy.

Mothering a sick child taxes the mother most. On the one hand, he will feel uncomfortable in strange surroundings, away from the mother; on the other, he is likely to be fussy in her presence and may make it impossible to carry out any treatment. Here again, she should be firm and reasonable and must be careful to hide her anxiety. It is to be remembered that bad habits are easily formed during an illness.

Greater skill is required in the management of the only child—particularly of one born in an advanced age, of the only child of a particular sex born after a series of issues of the opposite sex,and of the last child; for, it is such children who are most often spoiled. A backward child, that is one whose level of intelligence is below the average for the age and fails to show satisfactory progress in school, requires special training and care. He should never be remonstrated for his inherent deficiency.

Some children are found to be unusually precocious. They talk like grandmammas and seem to know everything. This abnormality of behaviour is largely due to parents who indulge in all sorts of talks in their presence. Such matters as sex, illness, appetite, bad taste etc.,should never be discussed before them.

Child's Likes and Dislikes

Many mothers speak of the child's likes and dislikes in front of him, and if he finds that he is different from other children, he will go on being fussy. Often, parents are afraid of the child missing a meal, and something else will be prepared, and the child learns that he can easily have things as he pleases.

Emotion has a great effect on digestion and an angry or worried child should not be urged to eat.—*Mother and Child.*

The Problem of Overcrowding

By

D. A. Gangolli, L.C.P.S., (BOM.),

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THE problem of overcrowding is not only peculiar to cities and towns, but also to industrial and manufacturing centres. The horror of living in overcrowded conditions cannot be properly appreciated by many who have not actually experienced them. My avocation has carried me to hundreds of families living in slum areas and I am unable to adequately describe the ghastly feelings that I have felt within me, on entering the miserable overcrowded quarters.

It is not uncommon to find thousands of families consisting of ten to twelve persons, living in single-roomed tenements without the least provision for light and ventilation. Such dreadful overcrowding forms an excellent breeding-ground for tuberculosis and the scourge spreads rapidly when the whole family consisting of the father, mother and half a dozen children have perforce to occupy one bed in their only room. When epidemics like small-pox and enteric fever visit these slums, which they inevitably do very often, they carry away a heavy toll of human life. Men and women, living in these slum areas, are old before their time and it is no wonder if with their nerves shattered and energy dissipated, they frequently succumb to debilitating diseases, while yet in their teens. Life in slums is not only a misery but an awful drudgery, from which there is no escape. Such a miserable life is the consequence of overcrowding.

Overcrowding is also a serious menace to public decency and morality. What chances are there for the family to attend to personal cleanliness and hygiene, when they are packed together,as they are,in a single room? How will the children grow with clean minds and respect for their elders when all the intimacies of life are opened out to them as they are bound to be, when all have to share the same bed in the same room?

Though much has been said, both in the press and on the platform, about the wholesale eradication of the slums, with the consequent amelioration of the terrible ever-crowding existing in those areas, nothing tangible has as yet been achieved. Though there are a number of social service organisations with their fine band of selfless workers, they have not been able to do much of spade work; for,social service, under conditions described above, becomes a huge joke and an utter impossibility. Slums, with their overcrowding, are the inevitable result of the grinding poverty of the masses and the profiteering mentality of the property owners, and all private enterprise and philanthropy of the generous minded persons are utterly incapable of rooting them out. It is only the State initiative that can effectively solve this vexatious problem. The construction of single-roomed tenements must be prohibited and the property owners must be compelled by legislation to charge such rents as to suit the pockets of the poor people belonging to the lower and lower-middle classes.

Nutrition Policy for India

By
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IN earlier articles* on 'Medical Inspection and Physical Education and Training', I had discussed the schemes to improve health and physical fitness of Indians. To-day, I shall confine myself to the nutrition policy—all these three constitute the major *national health policy*, to build a healthier and a fitter Nation.

So much knowledge about food stuffs, food-products, vitamins, food in health and disease, has been broadcast, that to-day the average citizen is puzzled and wishes to know where this fund and flow of knowledge would *really* end? He is now surprised why the once condemned banana fruit is now propped up as a good one? The consulting doctor is equally unable to give any definite reason, except that "*Science is advancing*". This is no consolation to the parties. The public fad about foods is too well known. "One man's meat is another's poison" is a trite saying to remember.

In simple language, the term *nutrition* means *food. Malnutrition* means *insufficient food.* Malnutrition is not a disease. Malnutrition or insufficient food may lead to any upheaval, inside the body, causing a number of diseases and physical defects or external (as an acute economic problem), leading to political revolution and overthrow of Governments.

Food involves the questions of agricultural production and distribution, poverty, the purchasing power of the individual and the standard of living. It is largely a question of economic distress.

The League of Nations, by the resolutions of the International Labour Conference (1935), constituted two Committees, to solve the problem of nutrition. After two years of careful research, one of the two Committees (presided over by Viscount Astor) recommended that every Nation should frame a nutrition policy of its own—

> "so that all sections of the population shall have a reasonable opportunity of getting a *satisfactory* diet."

Enormous and valuable statistics have been collected with regard to the Indian dietary, by a number of workers. Vigorous propaganda is afoot on behalf of standard or *balanced* diet. In a poor country, like India, with diversities of castes and creeds, what is the diet that is needed—*a balanced, a standard, an adequate, an optimum, or a satisfactory diet?* I venture to suggest that under the present distressing economic conditions, a *satisfactory* diet alone would achieve the purpose of eating and thus regenerate the population. The other diets are of only academic interest and have no

* "Health", April and May, 1939.

practical use. Prof. Bayliss' dictum—" take care of calories (total amount of food) and the other contents would take care of themselves " is a sound one to be taken note of, and not make fetish of vitamins and their products.

A diet to be of any value to build health and physique must satisfy the following conditions :—

(1) Physiological needs of the human system ;

(2) Psychological motives that create and satisfy the appetite ;

(3) Economic conditions of living ;

(4) Social customs ;

(5) Environmental life as the individual resides in city, town, village, rural or urban place.

A diet which fails to satisfy the above essential conditions is bound to prove unsatisfactory and inadequate, and thus stands self-condemned.

Russia, Germany, America and England have all formulated their own nutrition policies. A satisfactory diet chart has been chalked out for all classes of society, in all walks of life. What is India doing ?

The *nutritional studies in India have been mainly concerned with :—

(1) Dietetic surveys ;

(2) Analysis of common Indian food-stuffs ;

(3) Discovery of suitable cheap diet ;

(4) Training of "nutrition officers ".

The main objective of the Nutrition Advisory Committee of the Indian Research Fund Association is :—

†" To obtain a clear cut picture of the problem of nutrition, and to discover methods to improve the diet of the population, which are feasible under the present economic conditions "

Have the Government of India thus framed a nutrition policy for India, in the light of the previous paras ?

The *Agricultural policy of the Government of India has been extended so as to cover " the pursuit of the co-ordination of agricultural and nutritional studies for the improvement of human nutrition ".

The Health Commissioner with the Government of India, in his annual reports from 1933 onwards, has been predicting a food-famine in India, in 1941, as the food-crops would be insufficient to feed the growing population, which is expected to reach 40 millions by that time. The present food-crops are not even sufficient for the present population.

Health and Agriculture are provincial subjects, under the full control of the autonomous provincial governments. A nutrition policy to build health, is as much a pressing and necessary problem as the Education, Prohibition, or other beneficial reforms. The Provincial Governments should take up this nutrition policy, which should bring the great wealth of Indian produce of food-stuffs within the purchasing power of the poorest. The general public must be made to buy wisely the foods needed. Motivated, advertised food-stuffs should be guarded against : (*e.g.*) "Tea for Stamina," "Drink Ovaltine for Health," "Guard against Night Starvation—Take Horlicks" and Bournevitæ advertisements etc.

* Indian Information Series. 1-9-38.

† Ibid. 15-11-38.

* Ibid. 1-9-38.

The *aim* of nutrition policy should be the correct management and utilisation of *available* food-stuffs rather than their enlargement. The *object* must be to correct *bad food-habits*, which are responsible for much of the ill-health.

Instruction in cooking is a necessity.

The fundamental necessities of a healthy life, namely, good and wholesome food, cleanliness, exercise, sleep, and rest should be taught to children, so as to reach "a state of well-being that no improvement can be effected by a change in diet" (J. B. Orr.)

By adopting this nutrition policy, we would not only have ensured the agricultural resources of India, for the assured benefit of the Indian children, but also raised the level of health and physique of Indian manhood, within five years from now.

To-day is the beginning period of a gigantic war. Economic resources would have to be conserved. Food-rations are not likely to be adopted in India (?), as in European countries. The average Indian's health is bad and deteriorating. Now is the opportunity for the Provincial Governments to formulate an admittedly beneficial policy for the regeneration of the Nation. *"If it were done, 'twere well, it were done quickly"*.

References :

1. *Sir. R. McCarrison—" Food ".*
2. *Sir J. B. Orr — " Food, Health, and Income ".*
3. *League of Nations—'Problem of Nutrition'.*
4. *Govt. of India—'Health Bulletin', No. 23.*
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8. *The 'Indian Journal of Medical Research'.*

APPENDIX

Proximate Composition of Ripe Banana Pulp :—

Moisture	...	75.6%
Dextrose 4.5%, Levulose 3.5%, Saccharose 11.9%	total sugars...	19.9%
Starch	...	1.2 %
Crude fibre	...	0.6 %
Protein (Nx 6.25)	...	1.3 %
Fat	...	0.6 %
Ash *	...	0.8 %
		100.0 %

* Contains important minerals including calcium, copper, iron and phosphorus.

Vitamins in Bananas (units per oz.) :

International: A—71 to 95 ; B—4 to 5 ; C—57 ; Sherman: G—10.

Properties :—The readily assimilated sugars (along with vitamins, minerals, and fibre) make banana of value in *infant-feeding.* The vitamin contents prevent *deficiency diseases.* The soft texture and blandness (with carbohydrates, vitamins, minerals, pectin, and fibre) of the banana are useful in cases of *intestinal disturbances* and convalescent diets. The banana has also the property of maintaining the *alkaline reserve* of the blood.—*Jour. A. M. A.*, May 20, 1939.

(*With courtesy to the United Fruit Company, Boston, U.S.A.*)

Diet and Drunkenness

For many years it has been found that when inebriates are given a non-stimulating diet, the craving for alcohol tends to leave them. This has been demonstrated in the Salvation Army Homes for Inebriates, where during the past thirty years, "the most successful method of cure has proved to be treatment which involved a diet free from flesh-meats and other stimulating foods."

In support of this a contemporary quotes from *The Treatment of Inebriates* by Mrs. Bramwell Booth: "Cases are frequently received in so bad a state, that under the old regime we should have expected them to need bed and medicine for weeks before they could be pulled together; but now, with the aid of the diet, they are up and about in less than a fortnight."

It would seem, therefore, that all temperance reformers should find in the subject of a non-flesh diet a fundamental basis of *all* true reform. —*Good Health* (*London.*)

The Problem of Bovine Tuberculosis

All over Canada, public authorities, agriculturists and live stock associations are becoming more alive to the necessity of eradicating bovine tuberculosis, a serious source of infection. Severe cases of tuberculosis in children have been found in areas where herds of cattle were badly infected.

It is known that children may contract the disease from drinking milk from infected cows and pasteurizing is not a complete protection, because children on farms often drink raw milk.

Ontario, which has been a leading province in taking steps to eliminate bovine tuberculosis, will soon become one large area in which all cattle will be tested. This is the opinion of R. H. Graham, of the live stock branch, Ontario department of agriculture, who has announced that every county in the province has agreed to become a T. B.-free area and plans are under way to complete the testing as soon as possible.

In Alberta, the recently formed Neutral Hills Live Stock Association is organizing a campaign to create a tuberculosis-free area covering 350 townships — nearly 10,000 square miles—in east-central Alberta. Four thousand live stock men have joined the movement.—*The National Health Review.*

Cod-Liver Oil is Sometimes Injurious

Scandinavian workers have for a dozen years been writing papers describing toxic effects following the administration of cod-liver oil. They experimented on mice, rats, rabbits, calves, pigs and dogs. Rabbits and mice were more susceptible than rats or dogs. Injurious effects from the oil were noted especially in the

heart and to a lesser extent in the liver, adrenals, kidneys and other organs. At a Stockholm clinic two premature babies received the oil daily. The one which had from five to ten cubic centimeters lived four months; the other had a ration of from fifteen to twenty cubic centimeters and died in sixteen days. Autopsy showed that both had heart lesions similar to those found in the experimental animals, besides other manifestations which were attributed to the cod-liver oil.

In this country research has been carried on strongly suggesting a relation between the taking of cod-liver oil and skeletal muscle degeneration; the heart was also frequently involved. There is evidence that diets containing ten to fifteen per cent cod-liver oil retard the growth of the albino rat. At Yale, tests have been conducted by Ethel Burack and H. E. Zimmerman which are described in the *Journal of Nutrition*. Mice receiving twenty per cent of their diet in cod-liver oil did not grow as well as control animals having peanut oil as their supply of fat. Some of the cod-liver oil series showed pathologic changes in the heart, liver and spleen. These changes were not seen in the controls.

The authors call attention to the irritating action of cod-liver oil. Pinkerton found that when olive oil was injected into the trachea no harm was done, while cod-liver oil caused severe inflammation in the lungs. Injections of this oil in the skin brought on tissue necrosis at the site and in general marked deterioration of the physical condition.—*Good Health* (*U. S. A.*)

Ice-creams

Dr. D. M. Connan, M.O.H., reports that bacteriological examinations of ice-creams in Bermondsey during 1937 showed about 30 per cent. of the samples had a high bacterial count and some of the samples were shockingly contaminated. "This question," he continues, "has received the earnest attention of the Food and Drugs inspector and of the district inspectors for the last three or four years. In the case of each application for registration, the premises have been inspected and re-inspection of premises has been carried out frequently, especially during the summer time. A considerable number of applications for registration have been refused, and many applicants have been interviewed by the committee. One of the difficulties of the present position is that premises only are registerable and the personal habits and standard of education of many of the applicants, mostly of foreign origin are such that it would be impossible to expect them to manufacture a clean ice-cream even in ideal premises. Under the circumstances, it would seem reasonable that in future legislation the registration of all makers and vendors of ice-cream should be imposed, in addition to the registration of premises. In my opinion, it would be reasonable to prohibit the sale of 'loose' ice-cream in the street, and to require that all ice-cream so sold should be pre-wrapped. It would also be an advantage if the name and address of the manufacturer were required to be printed on the wrapper, cup or packet, together with the date of manufacture. This latter precaution might be of some assistance in preventing the sale of ice-cream which

had been thawed and re-frozen, a practice which seems to be fairly common in this borough. So far as the premises in which ice-cream is manufactured are concerned, I would suggest that—except in the case of dairies—these should be required to be used exclusively for the making of ice-cream, and that no other produce should be either made or sold on such premises; that water used for the manufacture of the ice-cream and for the cleansing of vessels must come from the rising main; and that applicants for the registration of premises be required to give one month's notice of their desire for registration. Much trouble has arisen in this borough on account of the fact that many applicants for registration purchase expensive apparatus and rent premises before making the application. If registration is refused on the grounds that the premises are unsuitable, the applicant then makes a plea to the committee that he will be involved in considerable loss if he is refused registration." Dr. Connan expresses the hope that legal bacteriological and chemical standards will be fixed for ice-cream.—*The Medical Officer.*

Walking as a Stimulant

"To Wordsworth walking was an exercise which stood in the stead of alcohol and all other stimulants," writes Mr. Geoffry Murray, in *The Gentle Art of Walking.* "He was indebted to walking, in De Quincey's phrase, 'for a life of unclouded happiness, and we for much of what is most excellent in his writings."—*Good Health (London.)*

Health Tit-Bits

Typhoid Carriers Supervised

The New York State department of health report that 412 typhoid carriers were under supervision at the end of 1938. Forty-five new carriers were added to the list and 31 removed. Of the new carriers, 27 were discovered as a result of an investigation of sporadic cases of typhoid, 10 through release cultures and the remainder through other circumstances. Of those removed 16 died, several were released after tests had shown they were no longer carriers and others moved to other health jurisdictions. Two typhoid outbreaks during the year were traced to carriers. One was caused by a carrier who supplied raw milk and the other by a carrier who prepared picnic food. —*The Medical Officer.*

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The First Sanatorium in the World

The first sanatorium was established in 1885 by Dr. Edward L. Trudean who was himself a sufferer from tuberculosis".—*The National Health Review.*

* * *

Deaths from Tuberculosis According to Sex

For some reason yet unknown, more young women than young men die of tuberculosis. After the age of thirty, however, the disease kills more men than women.—*The National Health Review.*

Bed-Wetting—Advice to Mothers

Do not discuss, in the child's presence, his trouble of bed-wetting. If you take no notice of it, it will, gradually disappear, but if it does not, seek skilled advice. See that when the children go to bed at night they are comfortably warm and do not give them a drink too close to their bedtime. If you can procure a mackintosh sheet for their beds, while the trouble persists, all the better. Do your best to cure this habit, for remember, too, that it may be a great difficulty and disappointment to the woman in whose home the children are living, to have her mattresses damaged in this way.—*Mother and Child.*

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A Recipe for 'Tired Mind'

"A TIRED, anxious, or preoccupied mind," says the medical correspondent of the *Daily Telegraph*, "interferes with the normal nerve control of the digestive system and the glandular secretions that are necessary for the proper digestion and absorption of food." A quiet week-end, light diet, and plenty of rest should suffice to put the majority of sufferers right.

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Diet *versus* Exercises

" CAREFUL eating, not exercise, is the best way to reduce, according to Dr. C. C. Shergis of the University of Michigan. Although a foot-ball player may get rid of 14 lbs. in a strenuous game, only about 4.7 pounds of the loss comes from fatty tissue; the remainder is water loss that will [illegible]plenished. 'A climb up the Wash[illegible]ment will work off the [illegible] part of butter', the obesity exp[illegible]k it is simpler [illegible]er.—*Ne*[illegible]

Sparkling Health Defined

SPARKLING health is not so much a gift of the gods as a matter of forming wise habits and maintaining them throughout life.—*Rhona Wheeldom in Good Health* (*London.*)

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Hints to Visitors

WHEN you visit a patient in hospital leave little children to cry at home;

wear bright clothes just come home from the dhobi;

don't shake hands or rub noses with the patient;

don't mistake the patient's bed for a chair;

seek no special favours;

keep to the visiting hours;

speak gently; of pleasant things;

don't smuggle unpermitted delicacies into the patient's locker;

don't bore the patient with too many queries;

let the patient do the talking if able and willing;

remain where the patient can easily see your face;

but please don't remain long.

—*The Indian Hospital.*